are amanita muscaria, deadly night shade, Jerusalem cherry, jimson weed and lantana.

The clinical picture of toxicity consists of:

Central effects—hyperactivity, delirium hallucinations, disorientations and seizures, coma and death.

Peripheral effects—dilated pupils, vasodilatation (flush) hyperpyrexia, tachycardia, secretion of saliva and sweat, secretions in pharynx and bronchi, urinary retention, serious cardiac arrhythmias.

Administration of physostigmine, an anticholinesterase, dramatically reverses both the central and peripheral effects of these anticholinergic substances, including the cardiac arrhythmias. The initial pediatric dose is 0.5 mg and dosage is slowly increased at five-minute intervals to a maximum dose of 2 mg. The adult dose is 2 mg and it is slowly increased to 4 mg.

Physostigmine is rapidly metabolized and repeated therapeutic doses may be necessary at 30 to 60 minute intervals as symptoms recur.

If toxic effects of physostigmine appear, atropine in a dose half that of physostigmine can be used to reverse these effects.

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Alcohol and Adolescents

THERE HAS BEEN an increase in consumption of alcohol and the consequent problems associated with alcoholic intoxication in children and teenagers. Alcohol-related automobile accidents involving adolescents are increasing. Because of advertising's youth-oriented message, alcohol, beer and wine have been made especially attractive to teenagers. Some of the young drink for social reasons such as peer acceptance, curiosity and experimentation. Others use alcohol as self-medication to relieve tension and anxiety. Self-medication paves the way for drug abuse and alcoholism.

Many families and cultural groups can use alcoholic beverages responsibly. Low-risk groups of drinkers come from families that present a constant example of drinking in moderation without lecturing or preaching. These families have ground rules for using alcohol or not using it, agreed upon by all. Excessive drinking is not acceptable and overindulgence is not looked upon as comical.

Alcohol abuse is at times related to lack of self-esteem and the search for identity. In others, alcohol abuse becomes a way of reducing tension and anxiety when no positive outlet for this energy exists. The ability to deal productively with normal states of anxiety, tension and frustration is based on family patterns of coping that are developed through experience.

Physicians must be alert to family, social and personality problems of those at high risk. Early intervention by those who care for young children and adolescents will be more productive than therapy once alcoholism is established.

MARTIN GERSHMAN, MD

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Cytoxan and Future Sterility

THE USE OF cytotoxic agents in inflammatory diseases was limited in the early period of steroid therapy. As more efficacious and less toxic cytotoxic agents have been developed, they have been used widely in those diseases that cannot be controlled by steroids, such as steroid-resistant and steroid-dependent nephrosis.

Cytoxan® (cyclophosphamide) is the agent most extensively used. Cytoxan is a derivative of nitrogen mustard and has a wide spectrum of biologic activities, including its inhibitory effects on immune phenomena and anti-inflammatory mechanisms. Although this agent depresses gonadal functions in experimental animals, this effect was not generally appreciated in humans until 1972. Then Fairley and co-workers reported that Cytoxan in daily doses of 50 to 100 mg had produced low sperm counts and azoospermia in 31 men. To date, there does not seem to be a permanent depression of ovarian function. Women treated with Cytoxan have delivered normal in-

fants. Cytoxan therapy before puberty has been found to induce permanent sterility in males but not in females. However, in controlled studies, Cytoxan (75 mg per square meter) does not cause sterility if given only for eight weeks. This is adequate in duration and amount to be beneficial in nephrosis. Preliminary observations indicate that a second or third course of Cytoxan therapy for eight weeks appears to be safe. Although this dosage is usually free of side effects, the patient should be instructed that alopecia can occur, but is corrected on cessation of Cytoxan administration. The drug should be given in the morning, followed by a liberal fluid intake in order to minimize the occurrence of hemorrhagic cystitis and fibrosis of the bladder; peripheral leukocytes should be monitored also. Additional long-term controlled trials, with the use of other cytotoxic agents, are in order. Such agents should be used with great caution, however, until more adequate studies have been completed.

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Acetaminophen Poisoning

ACETAMINOPHEN is being used increasingly as a substitute for salicylates. As a result of this utilization, poisonings and deaths from acetaminophen are increasing. It is important for all clinicians and workers at poison centers to be aware of the unique clinical features that this poisoning presents.

Ingestion of toxic amounts of acetaminophen leads to the following course:

Immediate (within a few hours)—anorexia, nausea, vomiting and diaphoresis. Central nervous system depression and coma do not occur.

Delayed (over subsequent 48 hours)—above symptoms continue as liver toxicity becomes clinically evident. There is pain in right hypochondrium with a large and tender liver. Hepatic enzymes, bilirubin and prothrombin levels rise dramatically. Three to five days later there is pronounced hepatic necrosis with jaundice, hypoglycemia, coagulation defects, encephalopathy and death due to hepatic failure.

Acetaminophen is rapidly absorbed from the gastrointestinal tract and metabolized by the liver to an active intermediate metabolite. This metabolite is thought to be the agent responsible for the hepatotoxicity.

Liver damage consists of cellular necrosis particularly in centrilobular areas which results ultimately in hepatic failure. Long-term effects of this damage in survivors have not been determined.

Treatment initially consists of emptying of stomach contents by induction of emesis with ipecac. Plasma acetaminophen level should be obtained. Plasma levels of more than 300 micrograms (μg) per ml of acetaminophen at four hours have been associated with hepatic damage. Once hepatotoxicity has occurred, the only treatment is supportive. Neither forced diuresis nor hemodialysis is effective. Use of steroids has not proved to be beneficial.

For hepatic failure, exchange transfusion and cross-circulations with pigs and baboons has been used with varying success.

Mitchell and his colleagues have reported preliminary success with an agent, cysteamine, which inactivates the toxic metabolite of acetaminophen. This agent, however, is only experimental and not available for clinical use.

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Caffeine (No-Doz®) Poisoning In Childhood

ACUTE CAFFEINE INTOXICATION in pediatric patients may mimic diabetic ketoacidosis in its presentation. Care must be exercised in the clinical diagnosis and treatment of a patient who presents with glycosuria and acetonuria.

Attention was focused on the problem with a 3-year-old child who was recently followed after accidental ingestion of 78 mg per kg of body weight of caffeine (No-Doz®). The child presented with symptoms of coffee ground emesis,